



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,624	06/26/2006	Stephane Moreau	17102/023001	5504

22511 7590 07/21/2009  
OSHA LIANG L.L.P.  
TWO HOUSTON CENTER  
909 FANNIN, SUITE 3500  
HOUSTON, TX 77010

EXAMINER
----------

COMLEY, ALEXANDER BRYANT

ART UNIT	PAPER NUMBER
----------	--------------

3746

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

07/21/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com  
buta@oshaliang.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,624	<b>Applicant(s)</b> MOREAU ET AL.	
	<b>Examiner</b> ALEXANDER B. COMLEY	<b>Art Unit</b> 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of the Claims***

1. The Examiner acknowledges Applicant's amendments, arguments, and remarks filed with the Office on May 11<sup>th</sup>, 2009 in response to Non-Final Office Action mailed by the Office on November 10<sup>th</sup>, 2008. Per Applicant's response, all claims have been amended. No new claims are added. Therefore, Claims 1-18 still remain pending in the instant application. The Examiner has carefully considered each of Applicant's amendments and arguments, and they will be addressed below.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "413" and "422". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 14** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In Claim 14, it is unclear what is meant by the phrase "which extends discontinuously". Appropriate clarification is required.

The Examiner accepts the claim corrections and/or arguments supplied by the Applicant in regards to the terms "blind hole" and "active surface", and has therefore withdrawn the 112 Rejections in regards to those terms. However, the Examiner cannot agree with Applicant's stance that the phrasing "extends discontinuously" is clear from the supplied figures. The Examiner must assert that a surface "extending discontinuously" is ambiguous, and fails to specifically define the shape and/or contour of the surface. Therefore, the Examiner must uphold the 112 Rejection for dependent Claim 14.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

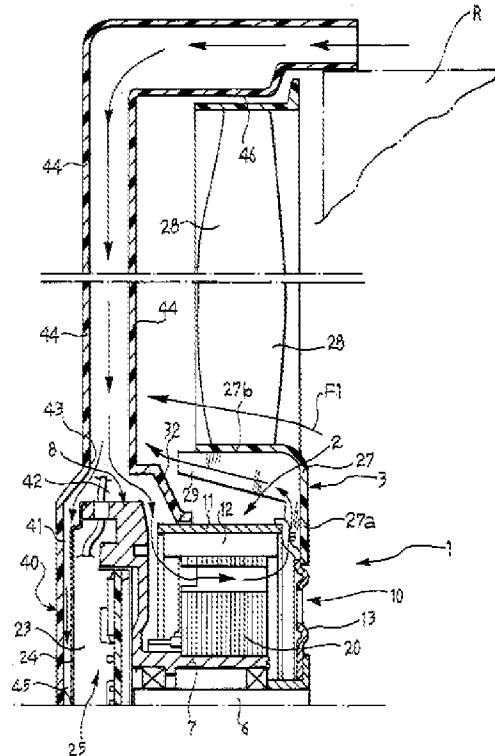
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3746

6. **Claims 1-18** are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 6,384,494 to Avidano et al. directed to a Motor-Driven Fan, Particularly for A Motor Vehicle Heat Exchanger.

FIG. 3



In regards to Independent **Claim 1**, and with particular reference to Figure 3 shown immediately above, Avidano discloses:

A ventilation device (1) comprising a fan (3) capable of being driven rotationally by an open electric motor (2) which is firmly attached to a support (40) intended for fixing said ventilation device (1), the fan (3) consisting of a plurality of blades (28) which are distributed regularly around a bowl (27) inside which there are arranged internal ribs (29) capable of ventilating said open electric motor (2), characterized in that the support (40) comprises a central part (24, 32) which is

connected in a substantially sealed manner to at least one peripheral portion (11) of the open electric motor (2).

As shown in Figure 3 above, Avidano et al. discloses an electric motor-driven fan unit for use in motor vehicles. Avidano's fan is designed with a hub and airflow structure that allows the fan's internal blades to cool the motor. In particular, Avidano states "A motor-driven fan includes an electric motor including a rotor and a stator in which the rotor includes an essentially cup-shaped cap which extends at least partly around the stator and has a plurality of lateral exit openings adjacent the bottom wall, and an impeller or fan including a hollow hub from which extends a plurality of main outer fan blades. This hub has a front wall fixed to the back wall of the cap of the rotor and a lateral skirt which surrounds the lateral wall of the cap in a radially spaced relationship. The hub is further provided with inner ventilation blades acting in operation to generate a cooling air stream which passes through the motor." (Abstract) Moreover, Avidano specifically describes the hub structure of Applicant's claimed invention by stating "The fan or rotor 3 of the motor-driven fan comprises a hollow hub 27 (FIG. 1) from which extends a plurality of main outer fan blades 28. The hub 27 has a front wall 27a fixed to the radial projections 15 of the disc element 13 of the cap 10, by means of rivets 29 or the like (FIG. 1). The hub 27 of the fan 3 further has a lateral, essentially cylindrical, skirt 27b which surrounds the side wall or ring 11 of the cap 10 in a radially spaced relation thereto. As is seen in FIG. 1, the hub 27 of the fan 3 is further provided, in the space 30 defined between the ring 11 of the cap 10 and the skirt 27b of the hub of the fan with internal fan blades 29 which extend in respective inclined planes with

Art Unit: 3746

respect to the radial direction.” (Column 2, Lines 36-48) Avidano goes on to disclose a main support body 40 with a central support 32 that serves to seal the open electric motor within the support. In particular, Avidano states "In the embodiment of FIG. 3 a rear body 40 is fixed to the stator body 8 on the side opposite the fan 3, which extends in facing and spaced relationship with respect to the cover 24 and which surrounds the periphery of the stator body 8 lying close the annular separator element 32." (Column 3, Lines 42-45) Avidano goes on to disclose a physical connection between the element 32 and the motor stator by stating, "Conveniently, although not necessarily, the motor-driven fan 1 further includes a separator ring 32 (FIG. 1) of essentially conical form, disposed around the end of the cylindrical wall 11 of the cap 10 facing the stator body 8 as well as around the ends of the cooling fins 26 of this stator body facing the fan. The separator ring 32 the function of which will be described hereinafter, can be fixed to the stator body 8 in various known ways." (Col. 2, Lines 54-61) And finally, Avidano describes the substantial sealing function provided by the element 32 in stating "This air stream discharges out by passing between the rear edge of the skirt 27b of the hub 27 of the fan and the annular separator element 32. This latter acts to impede mixing of the air stream entering the electric motor 4 with the air stream leaving it, as well as impeding the ingress of extraneous bodies or atmospheric agents into the electric motor." (Col. 3, Lines 17-24) Clearly, from these disclosures and figures, the annular separator 32 is substantially sealed to the periphery of the motor

7. In regards to dependent **Claims 2-5 & 15**, the annular separator element 32

Art Unit: 3746

surrounds and holds the outer periphery of the motor element 2. Moreover, it can be seen in Figure 3 that the inner edge of separator element 32 cooperates with the annular wall of the motor in a continuous, contiguous fashion, while the cover 24 cooperates with the rear portion of the motor. In particular, Avidano states "The portion of the rear body 40 facing the cover 24 of the stator is conveniently provided with at least one projection 45 in contact with this cover for the purpose of reducing or cancelling the effects of vibration." (Column 3, Lines 52-55) In regards to dependent **Claims 6-10**, it can be seen in Figure 3 that a blind hole, which surrounds and holds the rear portion of the electric motor, is formed between the annular separator element 32 and the cover 24. This opening (or hole) is attached to the rear part of the motor by tight fitting, and forms a plate around the rear portion of the motor. Regarding dependent **Claims 11-14**, the annular separator element 32 forms a surface opposite the bottom of the hub (i.e. bowl) that directs airflow from the inside of the hub to the outside of the hub (See Figure 3). Moreover, the separator has a concave shape (a quarter of a circle) that is flat, extends discontinuously (as its contour changes), and extends substantially linearly at a portion thereof. Finally, in regards to dependent **Claims 16-18**, Avidano's fan contains a peripheral part 44 that forms a frame with the central part. Moreover, Avidano's fan is for use in both an engine cooling device, as well as a motor vehicle. In particular, Avidano states "The rear body 40 may advantageously be formed integrally with a support structure to which the motor-driven fan 1 is fixed and defining a passage 46 for conveying the air stream caused in operation by the main blades 28 of the fan. In this case the aspiration duct 44 can be

Art Unit: 3746

formed at least partly in a spoke of this support and conveying structure. In the case of a motor-driven fan associated with a radiator R the inlet aperture of the aspiration duct 44 is conveniently situated outside the boundary of this radiator R.” (Column 3, Lines 59-67)

### ***Response to Arguments***

8. Applicant's arguments filed May 11<sup>th</sup>, 2009 have been fully considered but they are not persuasive. The Examiner's responses can be seen below.

9. In regards to Applicant's argument that Avidano's member 32 does not substantially seal the periphery of the motor, the Examiner must respectfully disagree. To begin, and probably most importantly of all, is the fact that the phrase "substantially sealed manner" does not require a completely air-tight seal. The phrase "substantially sealed", interpreted in the broadest reasonable manner, can simply mean a restricted flow path that limits flow more so than another portion of the structure. Nevertheless, the Examiner must assert that Avidano does, in fact, describe that the element 32 is "substantially sealed" to the motor housing. In particular, Avidano discloses a main support body 40 with a central support 32 that serves to seal the open electric motor within the support by stating "In the embodiment of FIG. 3 a rear body 40 is fixed to the stator body 8 on the side opposite the fan 3, which extends in facing and spaced relationship with respect to the cover 24 and which surrounds the periphery of the stator body 8 lying close the annular separator element 32." (Column 3, Lines 42-

Art Unit: 3746

45) Avidano goes on to disclose a physical connection between the element 32 and the motor stator by stating, "Conveniently, although not necessarily, the motor-driven fan 1 further includes a separator ring 32 (FIG. 1) of essentially conical form, disposed around the end of the cylindrical wall 11 of the cap 10 facing the stator body 8 as well as around the ends of the cooling fins 26 of this stator body facing the fan. The separator ring 32 the function of which will be described hereinafter, can be fixed to the stator body 8 in various known ways." (Col. 2, Lines 54-61) And finally, Avidano describes a sealing function provided by the element 32 by stating "This air stream discharges out by passing between the rear edge of the skirt 27b of the hub 27 of the fan and the annular separator element 32. This latter acts to impede mixing of the air stream entering the electric motor 4 with the air stream leaving it, as well as impeding the ingress of extraneous bodies or atmospheric agents into the electric motor." (Col. 3, Lines 17-24) Clearly, from these disclosures and the supplied figures of Avidano, the annular separator 32 is "substantially sealed" to the periphery of the motor.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 3746

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER B. COMLEY whose telephone number is (571)270-3772. The examiner can normally be reached on M-F 7:30am - 5:00am EST (Alternate Fridays Off). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon C. Kramer can be reached on (571)-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander B Comley/  
Examiner, Art Unit 3746

/Charles G Freay/  
Primary Examiner, Art Unit 3746

ABC